The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ US

U 015997-2

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only

Identification of IPEA	Date of receipt of DEMAND

Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION

Applicant's or agent's file reference: 09704.0-02

International application No.	International filing date *(day/month/year)*	(Earliest) Priority date *(day/month/year)*
PCT/US04/23864	26 JULY 2004	25 JULY 2003

Title of invention
PROCESS AND APPARATUS FOR COLLECTION OF CONTINUOUS FIBERS AS A UNIFORM BATT

Box No. II APPLICANT(S)

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*
CONOCOPHILLIPS COMPANY
600 NORTH DAIRY ASHFORD
HOUSTON, TEXAS 77079
UNITED STATES OF AMERICA

Telephone No.
Facsimile No.
Teleprinter No.
Applicant's registration No. with the Office

State *(that is, country)* of nationality:	State *(that is, country)* of residence:
UNITED STATES OF AMERICA	UNITED STATES OF AMERICA

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*
VAKILI, Ahmad D.
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Tullahoma, Tennessee 37388
United States of America

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United States of America	United States of America

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*
ROSSILLON, Daniel F.
2504 Copper Creek
Ponca City, Oklahoma 74604
United States of America

State *(that is, country)* of nationality:	State *(that is, country)* of residence:
United States of America	United States of America

☐ Further applicants are indicated on a continuation sheet.

EXPRESS MAIL LABEL
NO.: EV 480 463 080 US

International application No.
PCT/US04/23864

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representative

and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.

☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.

☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

John Richards
Ladas & Parry LLP
26 West 61 Street
New York, New York 10023
United States of America

Telephone No.
(212) 708-1915

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Teleprinter No.

Agent's registration No. with the Office
31503

☐ **Address for correspondence:** Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION

Statement concerning amendments:*

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed

the description ☐ as originally filed
☐ as amended under Article 34

the claims ☐ as originally filed
☐ as amended under Article 19 (together with any accompanying statement)
☐ as amended under Article 34

the drawings ☐ as originally filed
☐ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.
3. ☐ Where the IPEA wishes to start the international preliminary examination at the same time as the international search in accordance with Rule 69.1(b), the applicant requests the IPEA to postpone the start of the international preliminary examination until the expiration of the applicable time limit under Rule 69.1(d).
4. ☐ The applicant expressly wishes the international preliminary examination to start earlier than at the expiration of the applicable time limit under Rule 54*bis*.1(a).

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

☒ which is the language in which the international application was filed.
☐ which is the language of a translation furnished for the purposes of international search.
☐ which is the language of publication of the international application.
☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The filing of this demand constitutes the election of all Contracting States which are designated and are bound by Chapter II of the PCT.

International application No.
PCT/US04/23864

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

			For International Preliminary Examining Authority use only: received	not received
1. translation of international application	:	sheets	☐	☐
2. amendments under Article 34	:	sheets	☐	☐
3. copy (or, where required, translation) of amendments under Article 19	:	sheets	☐	☐
4. copy (or, where required, translation) of statement under Article 19	:	sheets	☐	☐
5. letter X	:	5 sheets	☐	☐
6. other *(specify)*	:	sheets	☐	☐

The demand is also accompanied by the item(s) marked below:

1. ☒ fee calculation sheet
2. ☐ original separate power of attorney
3. ☐ original general power of attorney
4. ☐ copy of general power of attorney; reference number, if any:
5. ☐ statement explaining lack of signature
6. ☐ sequence listing in electronic form
7. ☐ tables in electronic form related to a sequence listing
8. ☒ other *(specify)*: Copy of Search Report and Written Opinion of the ISA (Both Carried out by the EPO)

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

John Richards

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.
   ☐ The applicant has been informed accordingly.
4. ☐ The date of receipt of the demand is WITHIN the time limit of 19 months from the priority date as extended by virtue of Rule 80.5.
5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.
6. ☐ The date of receipt of the demand is AFTER the expiration of the time limit under Rule 54*bis*.1(a) and item 7 or 8, below, does not apply.
7. ☐ The date of receipt of the demand is WITHIN the time limit under Rule 54*bis*.1(a) as extended by virtue of Rule 80.5.
8. ☐ Although the date of receipt of the demand is after the expiration of the time limit under Rule 54*bis*.1(a), the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

CHAPTER II

PCT

FEE CALCULATION SHEET

Annex to the Demand

International application No. PCT/US04/23864

Applicant's or agent's file reference 09704.0-02

For International Preliminary Examining Authority use only

Date stamp of the IPEA

Applicant

CONOCOPHILLIPS COMPANY

CALCULATION OF PRESCRIBED FEES

1. Preliminary examination fee	USD 750 P	
2. Handling fee *(Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.)*	173 H	
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box	USD 923 TOTAL	

MODE OF PAYMENT

☐ authorization to charge deposit account with the IPEA (see below)	☐ cash
☒ cheque	☐ revenue stamps
☐ postal money order	☐ coupons
☐ bank draft	☐ other *(specify)*:

AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT

(This mode of payment may not be available at all IPEAs)

IPEA/ US

☐ Authorization to charge the total fees indicated above.

☒ *(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)* Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.

Deposit Account No.: 12-0425

Date: MAY 25, 2005

Name: JOHN RICHARDS

Signature: _____

Form PCT/IPEA/401 (Annex) (April 2005)

See Notes to the fee calculation sheet

Attorney's Docket No. 09704.0-02

IN THE UNITED STATES INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY (IPEA/US)

PCT/US04/23864 JULY 26, 2004
INTERNATIONAL APPLICATION NO. INTERNATIONAL FILING DATE

PROCESS AND APPARATUS FOR COLLECTION OF CONTINUOUS FIBERS AS A UNIFORM BATT
TITLE OF INVENTION

CONOCOPHILLIPS COMPANY
APPLICANT(S)

Assistant Commissioner for Patents
BOX PCT
Washington, D.C. 20231

Date of this Paper:
May 25, 2005

Sir:

This letter is being filed with our Demand for International Preliminary Examination and is in response to the Preliminary Written Opinion of the ISA (EPO) with date of mailing December 29, 2004. For the Examiner's convenience we attach a copy of the International Search Report and the Preliminary Written Opinion of the ISA (both carried out by the EPO).

Novelty.

The Examiner asserts that the subject matter of claim 1 fails to distinguish from US 5,766,646 (D1) for the reasons stated. However our claim 1 requires that there is contacting of our fibers '...with at least one **additional** flowing stream of gas to place said fiber under tension, wherein the velocity of said at least one additional flowing stream of gas is greater than said initial velocity of the fiber...'. D1 neither discloses nor suggests this feature. The reason our claim 1 distinguishes in this way is because our two gas supply streams cooperate to produce a different effect on our claimed fibers than the effect that any two streams of D1 produce on the filaments of DI. We now discuss these differences in detail.

US 5,766,646 (D1)

According to the Specific Description of D1 "The downwardly

flowing air from inlets 7 through passage 8 serves to cool … and to longitudinally stretch the filaments." This constitutes a primary gas supply stream. Blower 17 has an inlet underneath belt 6 at the lower end of shaft 4 and an outlet connected to inlet ports 7 so that a constant stream of downwardly flowing air co-directional with the descending filaments is formed in shaft 4. Additional air from inlet ports 20 "issuing through slots 11 (flanking passage 8) creates turbulence that loops the filaments 2 in a downwardly flared lower diffuser zone 9." (Col. 3, lines 19-40.) The additional air from slots 11 constitutes a secondary gas supply stream.

Horizontal air provided through slots 10.1 (immediately below slots 11) and removed through slots 10.2 (at the upper portion of diffuser region 9) are connected to a separate blower (18) and are regulated "to control the stochastic movement of the filaments 2 to produce a spun-bond mat of extremely uniform density." (Col. 3, lines 42 - 53)
The horizontal air provided through slots 10.1 constitutes a tertiary supply gas stream and the term "stochastic", as used in this specification, would most likely be understood by one of ordinary skill in the art appears to be synonymous with the term "random".

Our invention as claimed in claim 1
In contrast our two claimed gas supply streams work together to produce a different effect on the fiber than any two gas supply streams disclosed in D1 . We require that our primary gas stream i.e. the stream claimed in step c) of claim 1 (see our passages or slots 36) and our secondary gas supply stream i.e. the stream claimed in step d) of claim 1 (see our gas supplies 50) work together. We bring this requirement out in our claim language since we claim contacting our fibers with our flowing stream of gas (the stream claimed in step c) of claim 1) and then we claim the feature that there is contacting of our fibers '...with at least one **additional** flowing stream of gas **to place said fiber under tension** .....'. The effect of contacting in this way is that our secondary gas stream combines with the primary gas so that the two supply air streams combine additively to form a single, accelerated substantially laminar flow of gas which maintains the claimed tension on the filaments and also holds the filaments relatively straight and stable. (see Page 4, line 27 thru page 5, line 3). This claimed feature in our claim 1 is not disclosed in D1 so our claim 1 is distinct.

There is another reason why our claim 1 distinguishes from D1. Our claim 1 recites:

> '.....e) dissipating said at least one additional flowing stream of gas thereby reducing the velocity of the fiber

to a final velocity; f) passing said fiber out of said diffuser at said final velocity; and, g) collecting said at least one fiber to form a fiber batt.'.

These method steps produce an effect which we claim of 'reducing the velocity of the fiber to a final velocity..' which is one of the key advantages of the invention. With our invention we can significantly decrease and to control the velocity of the fiber before it reaches the collecting surface. We draw attention to disclosure in our description on page 9, lines 19-24 for more description of this feature.

Explanation of why our claimed dissipation features and claimed features concerning reduction in velocity distinguish from disclosures of D1.

What D1 discloses:
D1 discloses that "According to a feature of the invention the shaft has below the third outlet slots a downwardly widening diffuser region." (see Col. 2, lines 42-43 of D1). Disclosure at Col 4., lines 26-32 of D1 (at paragraph 7 of independent Claim 1) specifies the "side walls being substantially imperforate except at the slots and diverging downward below the third outlet slots.." Thus the side walls of D1 are imperforate except at slots 10.1 and 10.2 (see Fig 1 of D1) and the side walls of D1 do not diverge until below the "third outlet slots", i.e., slots 10.2 (again see Fig 1 of D1).

At this point we wish to note that we the disclosure of D1 appears incorrect to refer to "third outlet slots", (slots 10.2) since there are no first or second outlet slots described anywhere in D1.

D1 also discloses that the amount of air supplied through slot 10.1 and exhausted through slot 10.2 is regulated to control the stochastic movement of the filaments (Col. 3, lines 42 - 53 of D1) and "for looping the cooled and stretched filaments prior to deposition on the belt." [see Col. 4, lines 33-42 of D1 (paragraph 8 of independent Claim 1 of D1)].

What we disclose and claim in our application:
In contrast to the above we disclose at page 6 of our specification lines 25-32 (see also Fig 1 of the subject application) that the upper portion 58 of diffuser 57 is imperforate, while lower diffuser portion 62 is perforate. Exhaust ports 64 may be open areas in the walls of lower portion 62 or may comprise screens, perforated flexible plates, or other suitable configurations. These features in our disclosure result in the feature we claim in our claim 1 (which is nowhere disclosed or suggested in D1) that there is reduction of velocity of the fiber.

The above differences between D1 and our application result in major differences between D1 and our application in the **configuration purpose and effect on the fibers of the air exhausted from the sides of the diffuser** . In D1 as mentioned the control of the amount of air supplied through slot 10.1 and exhausted through slot 10.2 is regulated to control the stochastic movement of the filaments and "for looping the cooled and stretched filaments prior to deposition on the belt." In contrast in the subject application air is exhausted via the sides of the lower portion of diffuser in a generally horizontal and upward direction (see page 6, lines 27-30 of our specification) and the upward component of this exhaust imparts an upward force on the filaments and causes them to slow even more (see page 7, lines 9-11 of our specification.) As mentioned above our claim 1 claims '..dissipating said at least one additional flowing stream of gas thereby reducing the velocity of the fiber to a final velocity..etc'.

How our independent method claim 8 distinguishes from D1

Our claim 8 recites '....c) controlling the amount by which the initial speed of the fibers is reduced after said fibers leave the blow spinning apparatus and before said fibers reach said fiber collecting surface'. For reasons explained above D1 neither discloses nor suggests this feature.

How our independent apparatus claim 10 distinguishes from D1

Our claim 10 requires a diffuser located downstream of a venturi. D1 neither discloses nor suggests presence of a venturi. As noted in our specification at description page 4 commencing at line 30 '.....the gas accelerates as it enters the narrow venturi throat 48..... The two gas flows combine with the filaments near the venturi entrance 46, and form a single, accelerated substantially laminar flow of gas surrounding and entraining the filaments...'. The venturi is operable in forming the two supply air streams into a single, accelerated substantially laminar flow of gas. Our claim 10 also requires that 'said diffuser comprises one or more air exhaust ports that create in the diffuser an airflow having a direction against the direction of flow of the fiber'. We discussed above the importance of the creation in the diffuser an airflow having a direction against the direction of flow of the fiber for slowing the fiber. This feature as claimed in claim 10 is neither disclosed or suggested in D1.

Obviousness:

D1 which the Examiner considers the closest prior art is not close prior art to the subject invention as claimed. This is because D1 achieves different effects than the effects we achieve in our invention.

We discussed above the importance of the contacting of our fibers with at least one additional flowing stream of gas to place said fiber under tension and hold the filaments relatively straight and stable. D1 does not place its fibers under tension and hold the filaments relatively straight and stable. Instead D1 provides an opposite effect. As noted above and as disclosed at col 3 line 38-41 of D1 additional air from inlet ports 20 "issuing through slots 11 (flanking passage 8) creates turbulence that loops the filaments 2 in a downwardly flared lower diffuser zone 9." The turbulence created by the secondary gas stream in D1 would be very undesirable since the effect we achieve in our application is to hold our filaments relatively straight and stable.

We also discussed the importance in our invention of the effect of significantly decreasing and to controlling the velocity of the fiber before it reaches the collecting surface. Neither this effect not the means to achieve it is disclosed in D1. Therefore the subject invention as claimed in its independent claims is prima facie non obvious given the disclosures of D1.

Other category 'Y' references cited in the Search Report.
WO 96/35009 cited as relevant to claims 6 and 7. We believe all our independent claims are separately inventive without the limitations in claims 6 and 7 so it is not necessary to address disclosures in this reference at this time.

U.S. 3,325, 906 cited as relevant to claim 20. We believe all our independent claims are separately inventive without the limitations in claim 20 so it is also not necessary to address disclosures in this reference at this time.

We respectfully submit that the a[redacted] claims are allowable. The Examiner is kindly requested to issue a favorable International Preliminary Examination Report.

Please acknowledge receipt of this correspondence by date stamping and returning the attached post card.

Respectfully submitted,

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